The MAC Flyer

JUNE 1980

Close Look II . . . page 20

The MAC Flyer

MILITARY AIRLIFT COMMAND

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For Greater Safety and Efficiency in MAC Air Operations.

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page 12

page 20

page 25

Meet MAC's New Director of Safety 3
Famous Last Words 5
Flyers Anonymous 8
Hunt the Hurricane 10
It Can Happen to You 12
Genesis of Flying Safety 14
The Competition 16
A Heavy War Story 18
Close Look II 20
Deja Vu: Keesler AFB 24
C.R. Terror 25
Quick Stoppers 28

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Flyer Call

To err is human, but to admit it publicly can be embarrassing. With the idea of keeping the embarrassment to a minimum, *TMF* inaugurates a new feature this month called *Flyers Anonymous*. Its purpose is to allow anyone and everyone to tell the world about their flight-related flubs without having to divulge their true identity. Cloaked comfortably in anonymity, you can bare your most flagrant foulup or relate a close call with calamity. The idea, of course, is to give others a chance to learn from our mistakes so they may avoid being set up for a similar, potentially serious mishap. Everything from navigation errors to near misses, along with ground handling, loading and maintenance SNAFUs are prime candidates.

If confession is good for the soul, then *Flyers Anonymous* should prove to be a tonic for folks who yearn to get something off their chest—like the time I almost . . . But that's another story. **ADY**

Send *Flyers Anonymous* items to:
HQ MAC / IGFE
Scott AFB, IL 62225

LOOK FOR THIS LOGO

FLYERS ANONYMOUS

The *Flyer* staff is proud to ask our readers to . . .

Meet MAC's New Director of Safety

The MAC Flyer: Could you tell us a little about your flying and airlift background?
Col McFeron: After pilot training, I went to navigator school for pilots, and then into the B-47 program. In the Stratojet I checked out as copilot, then aircraft commander, IP and flight examiner. After nine years with SAC, I had 3,000 hours. Then, when C-141s came into MAC, so did I. I was the chief of aircrew standardization for an airlift squadron at Travis and eventually flew 4,000 hours in Starlifters. When C-5s came into the inventory, I was in the initial cadre and flew 2,000 hours in Galaxies before coming to Headquarters MAC.

TMF: As a pilot, were there any particular experiences that made a "safety believer" out of you?
Col McFeron: I guess my belief in safety started when I was in pilot school and I saw accidents and incidents there. Very early on I got the message as far as the advantages of flying safely was concerned. Of course, this was reinforced when I was assigned to B-47s. That airplane was one of the Air Force's first high-performance jets. You had to be a thousand miles ahead of it to be safe. I have a total of some 9,000 hours of flying time and have never really had what I would call a serious emergency. I think at least part of the reason is my philosophy of staying ahead of things no matter what you are doing—on the ground or flying, you'll come out better.

TMF: What do you see as the biggest potential obstacle to accident prevention?
Col McFeron: Communicating. Getting the word down to the young airman who does the job on the line. In this area, I think the first-line supervisor is the key person to insure the job is done safely. Of course safety consciousness has to start with the commander because he sets the pace. But you have to get to each individual to really make the safety system work. In MAC, by the way, most commanders are strong supporters of our safety programs and it shows in our outstanding record.

Colonel Louie O. McFeron, Director of Safety

TMF: How do you plan to improve communication?
Col McFeron: We need to get our safety folks out into the work areas. They can't do their jobs behind a desk. To make sure they have the time they need, I intend to see if some of the administrative requirements on safety staffers can be reduced so they can get out of the office more.

TMF: Do you plan to be on the road much *yourself* as the Director of Safety?
Col McFeron: I hope to visit each unit once a year while I'm in this job. I think it's extremely important for people in the field to know that we are interested in what they are doing.

TMF: What do you think of safety as a job for young officers and NCOs?
Col McFeron: I think the safety field presents an excellent opportunity to pick up experience which will be most beneficial when they get to be commanders and supervisors. I just can't think of another area where you get involved in so many facets of operations. I hope we can spur the personnel system to watch out for our safety folks with appropriate follow-on assignments that make use of their unique talents and experience. And commanders, of course, should be as selective as possible in filling safety positions.

TMF: Generally, what do you think it will take to maintain or reduce MAC's current 0.8 per 100,000 hours flight mishap rate?
Col McFeron: It's going to be hard to improve on our flight accident statistics. However, I think it depends on cooperation between commanders, safety personnel and particularly that front-line supervisor. Also, I've always been a believer that good, strong stan-eval programs, along with quality control and assurance programs, make safety programs work, really. We will be stressing the interplay of all these elements throughout the time that I am Director of Safety. One other thought, our technical data is good in most cases, but there is always room for improvement. I would encourage all our people to submit changes when they see something that could be altered to enhance safety. Above all, we must let all our people know that the preservation of lives and property depends on their good safety practices.

TMF: Do you feel there is an increased risk during ORIs and other contingency exercises?
Col McFeron: No doubt the risk is increased during these periods of intense activity. The people who augment ALCEs in safety positions play a key role in reducing the risks during these operations. Many times, especially on smaller deployments, the ALCE commanders and cadre people must act as safety monitors and insure all supervisors are committed to making sure the job is done as safely as humanly possible under the circumstances. Therefore, they need a strong safety training program with a special emphasis on deployed operations. With dedicated leadership and committed supervisors, we can keep the risk from becoming a mishap. Also, things such as airfield safety surveys, conducted at airlift operating locations, are very important to insure that the field is adequate for the operation planned, and that safety isn't compromised to the detriment of the mission.

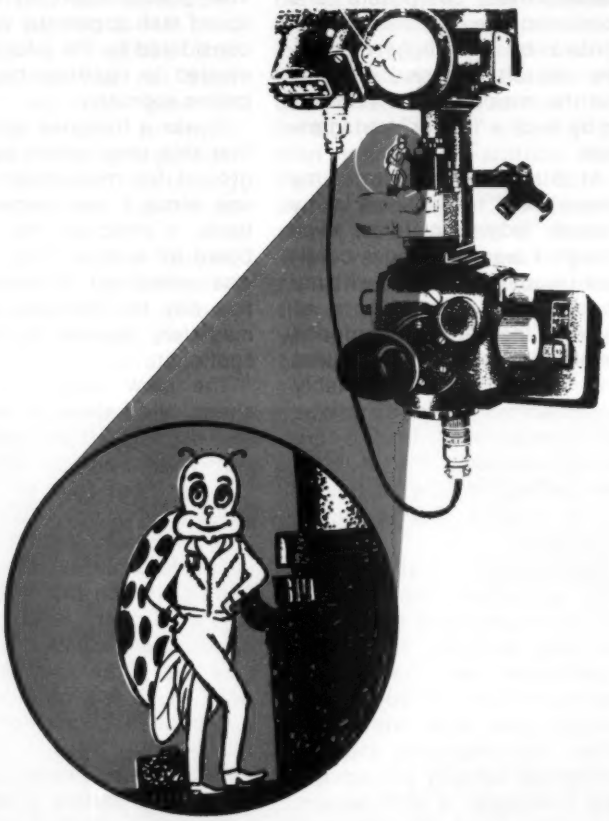
TMF: What would you say will be the overall thrust of your safety efforts?
Col McFeron: I'll be working to promote increased involvement of all first-line supervisors, safety people and commanders in mishap prevention. I am thrilled about getting this job. I feel it's one of the most challenging positions in the command because it's an area where we can do a lot of good by saving lives and equipment. There are many dedicated people in the safety business, and I am most happy to be associated with them.

TMF: Thank you, Colonel McFeron.

Honorable Mention, 1979 MAC Flying Safety Writing Contest

Famous Last Words

A flight examiner "bugs" a crew for the ultimate no-notice check.



by Major Anthony J. Oliva
57th Military Airlift Squadron
Altus AFB, Oklahoma

All of us in the flying game have at one time or another been exposed to anecdotes, war stories (fairy tales) and near misses—some very amusing and some quite tragic. I have always wanted to relate an amusing adventure that would captivate an audience and bring great notoriety to the author, namely me, and I have spent much time contriving and devising methods that would bring this hope nearer to reality.

I finally decided that if I could become a small bug it would be extremely easy for me to ride in the cockpit of an airplane, yet never be noticed by the crew. Since I was a flight examiner at the time, the intriguing possibilities of this idea caused me to spend many hours developing the concept. If I was successful, my job as an evaluator would become more meaningful since nobody would know I was on board, and the ride could be a true "no-notice" check.

There were some extremely difficult technical problems, but perseverance ultimately won out. With the help of some inventive friends, a miniature oxygen mask, totally compatible with current aircraft systems,

was developed. I decided that taking the form of a "lady bug" would be least objectionable, and since my wings were built in, a parachute would not even be necessary. The most challenging technical obstacle was designing a miniature version of the standard MAC hang-up bag. This was no easy task since it had to be large enough to carry a two-week supply of clothes, garnished with all the appropriate patches and yet not be noticed by any of the crew. Once again my technical friends came through, and I was off on my first adventure.

A C-130 flight served as the first leg for my innovative flight evaluation. I jumped on board just as the loadmaster was closing the crew entrance door and settled comfortably into position by the sextant port. From here I felt I would be in a good spot to observe every cockpit activity and not have to worry about being disturbed. The crew looked eager and there were no noticeable violations of 35-10. The aircraft commander, a very senior lieutenant colonel, was hesitantly responding to the challenges of the checklist as he began to back the Herky bird out of the parking spot. Unfortunately, the loadmaster didn't have enough time to position himself on the ramp, and before he could gain a commanding view of the situation, he decided to call a halt to the proceedings. His high pitched scream of "Stop!" was immediately adhered to. The pilot aggressively applied the brakes in response to the implied disaster in the loadmaster's voice. The following sequence of events occurred very rapidly. The nosewheel quickly gained altitude, but since there was no airspeed to sustain this flight maneuver, it succumbed to the inevitable fate demanded by the laws of gravity. As it returned to the ground with the tenderness of a jack-hammer, I began to question the wisdom of this adventure. The pregnant silence in the cockpit was disturbed by the reassuring voice of the flight engineer, who reported "No sweat, sir, the nose gear is okay."

None the worse for wear from this experience, the crew regained their composure and continued their duties as prescribed by the flight manual. The aircraft departed on time and the mission was unhampered by such a "minor" transgression.

At this point, I reaffirmed my commitment to continue in my present lady bug form, even though I was no longer confident I would be pleased with my observations. The hours of boredom that followed reminded me of the numerous hours spent aloft while being comfortably guided across the pond by gyros and computers. That same feeling overcame the crew as they settled into the routine of hourly AIREPS and reams of paperwork.

Destination weather was clear, but runway maintenance was in progress and only 3,000 feet were available. Immediate preparations were made for a maximum-effort landing. The cockpit came alive with challenges and responses and the appropriate landing procedures were discussed. A VFR pattern was flown and the aircraft turned on final approach with gear down and 100 percent flaps in position. Then, the pilot misjudged his descent point and mistakenly compensated by increasing his rate of descent. He settled on a steady 1,200-feet-per-minute letdown, and the nervousness of the copilot could be sensed when he mentioned the VVI reading to the pilot. The AC's reply of "No sweat, I have 20 knots extra airspeed," did little to alter the inevitable. His rapid increase of elevator backpressure failed to reduce the high sink rate, and the aircraft contacted the ground hard, overstressing the landing gear and removing significant portions of the ramp and skid. The phenomenon of a high-speed stall apparently was never considered by the pilot when he elected to continue his misbegotten approach.

It was a foregone conclusion that this crew would be on the ground for more than a RON, and since I was eager to get back, I checked the mission board for a return trip. A C-141 was scheduled to depart later that day for Torrejon, so I immediately planned to secure a spot on it.

The crew came out to the aircraft well ahead of schedule and began preflight preliminaries. They were an impressive looking bunch, all neatly groomed in the MAC image. Four lieutenants and a major navigator departed for Base Operations while the NCOs remained at the aircraft. Refueling and upload were completed by the time the pilots and navigators returned. I felt confident *this* would be a good flight for a change.

Passengers were brought aboard, checklists completed, and another on-time departure was assured. The Starlifter was soon airborne, and the cockpit filled with the aroma of coffee and cigarette smoke. One of the engineers decided to take a nap and retired to the lower bunk. The second navigator did likewise, since this was an

augmented crew and the next leg was his. I was impressed by the smoothness of operations even though no one knew that a flight examiner was on board. Again, the sextant port was a convenient vantage point.

It was dark approaching our destination, and the cockpit started to buzz with activity as we began our descent. The "Before Descent Checklist" was initiated, but numerous radio calls interfered with its accomplishment. As the C-141 continued down, I noticed that some switches had not been activated. Although none of them were critical to flight safety, I was starting to get concerned. I heard the pilots talking to approach control, confirming radar vectors to an ILS final approach, and further descent was approved. But altimeters were not reset to station altitude as we passed through the transition level. Errors were starting to compound and I was becoming more concerned.

The aircraft leveled off at 5,000 feet and the navigator started preparing for the approach. He had just opened his approach book when another descent was begun. By this time he began getting apprehensive also. He noticed that the present altitude was below the minimum safe levels depicted on his charts. The copilot was flying the aircraft now, and he was having difficulty just maintaining level flight. In desperation, the navigator advised the aircraft commander that some of the terrain in the area was higher than their present altitude, but the aircraft commander confidently responded, "No sweat, nav, I have the field in sight." These reassuring remarks were obliterated by strong deceleration forces, flashes of red and white and intense heat. We had contacted the ground!

I was lucky, my small form allowed me to escape through a hole made when the flight station separated from the fuselage. I saw what remained of the burning, shattered airplane below me and knew I was alone!

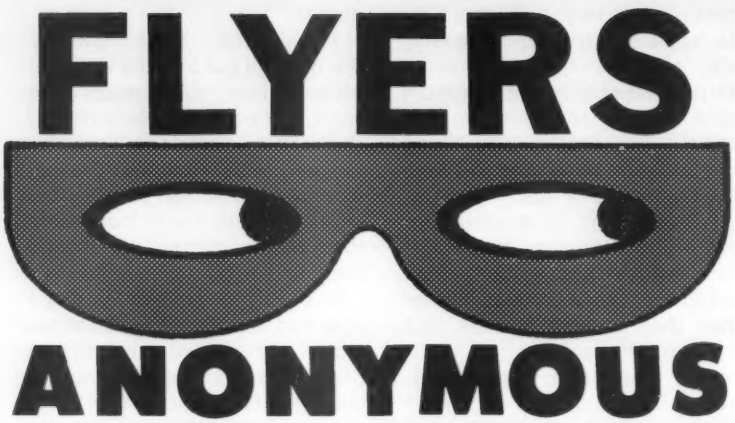
After the fires burned themselves out and the accident investigation team began their work, I tried to reassure myself that this accident was an isolated case. However, the last words of the aircraft commander kept haunting me—I had heard them before. Worse yet, I'd used them myself!

It suddenly dawned on me, I now had a purpose for continuing in my present miniaturized flight examiner form. I would compile data and formulate a report. Its title would be "Famous Last Words." My first entry: "No Sweat."

ABOUT THE AUTHOR (in his own words)

I allegedly graduated from Laredo flying school in September 1963. That was followed by 600 hours, and three landings, in the B-47. A while later, I upgraded to aircraft commander in the C-130A at what was then Lockborne AFB, Ohio. After a few hundred hours in the "Lockheed Converter," as the A-model was affectionately known because of its ability to convert JP-4 into noise and vibration, I was soon forced back into the right seat as an instructor pilot. Eleven Air Medals later, the 6th Military Airlift Squadron, McGuire AFB, New Jersey, was honored with my assignment. After a few months there, I was summarily dismissed and sent to the 438th Military Airlift Wing's stan/eval shop. A short interlude at Osan AB, Korea, qualified me for a tour as an operations duty officer at 21st Air Force.

I was subsequently saved by the rated supplement and spent three years at Chanute AFB. The first two years I practiced being a squadron commander with the 3342d School Squadron, and I spent my last year as executive support officer for the 3350th Technical Training Group. The beginning of 1979 saw my long-awaited return to the cockpit as a C-141 flight examiner at Altus AFB.



True confessions of contrite but wiser aircrew members.

Rotating on a wing and a prayer.

A thunderstorm was approaching Atlanta from the east, but the wind was from 360 degrees at ten knots. I could see no problem taking off away from the storm, so we proceeded to taxi out. Near the runway, the wind had dropped down to five knots but was still in the proper direction. As I taxied the aircraft into position, we were given a three-knot tailwind. We quickly checked the book and found that a takeoff was legal and well within limits. I observed a long line of airplanes waiting for takeoff, and knew if they changed runways, I would be last instead of first, and a long delay would ensue. With that in mind, and knowing I was legal, I proceeded with the takeoff.

At about 10 knots prior to reaching V_1 (rotate speed), the tower advised, "You now have a 30-knot tailwind, you can abort or continue, take your choice!" Looking at the runway remaining, we decided that we would be unable to stop before running out of concrete, and so elected to continue the takeoff. The airspeed needle just seemed to hang at 10 knots below V_1. We waited as long as we dared, then rotated, even though still below V_1. The wheels lifted off, just as we ran out of runway.

We would never have considered taking off *into* that awful looking thunderstorm, but none of us had ever considered the effect that departing *away* from a CB could have. From now on, when I am on the ground, and a thunderstorm is approaching, I will stay on terra firma and watch, no matter which way I am heading in relation to the storm.

Let's do a 360 and get outta here.

Several years ago I was flying a C-5 on Amber-28 over the Eastern Mediterranean, headed south toward Nicosia. Our route of flight called for a right turn about 47 miles north of NIC to pick up a westward course toward Rodos. With the heading mode on the nav-select panel punched in, I used the heading bug to turn the airplane to the new course so I could keep a lookout for the numerous other airplanes that always seem to congregate in that area of the world. The aircraft rolled smoothly into the commanded right turn, following the heading marker which would roll it out on the selected heading. While the turn was being completed, both the copilot and I began anxiously scanning outside for traffic that had just been reported at our altitude. This part of the Med seemed busier than usual that bright, sunny day,

with flights from Europe, the Middle East and Asia all criss-crossing the airways in great numbers. There had been several reported incidents of traffic conflicts recently, so all eyes were glued to the wind screens.

Still in the turn, I glanced back inside to see how close we were to rolling out on course and was shocked to find we had already overshot the desired heading by almost 60 degrees. I immediately disengaged the heading button and corrected back toward the left. With so much traffic in the area and so many controlling agencies involved, the last thing we should have been doing was wallowing around all over the sky. After severely reprimanding the autopilot for such a betrayal of trust, I kicked *myself* for not dividing my attention better. I could not, in good conscience, browbeat the copilot for not catching what I myself had missed, but in the discussion that followed, we agreed that in the future, if he happened to see anything that didn't seem absolutely kosher, he had my wholehearted encouragement to speak up, or even tap me gently with his hobnails if *that's* what it took to get my attention.

Depart in haste, repent at leisure.

We were about to begin the third and final leg of a long but routine B-707 charter flight around Europe. Still in the blocks at Ciampino Airport, we briefed both the Bastia 1 and Bastia 2 SIDs, not knowing which one would be assigned. We were at a light gross weight, so the altitude restrictions presented no problems.

After engine start we began taxiing out. Our clearance came through just as we were running the taxi checklist. We went over the readback twice because the controller's accent was difficult to understand. The initial part of the clearance turned out to be, "Cleared SID Ostia 33, Ostia VOR, Basita 2, R-46, etc. . . cleared for takeoff." During the readback, we reached the end of the runway and things were getting very busy—finishing the checklist, checking that final was clear, and reading back the Ostia 33 SID, which we had not briefed. A short discussion ensued and the required altitude at CIA beacon was determined to be 2,000 feet or above. Although we felt rushed, the captain decided to reread the SID; but the tower cleared us for an *immediate* takeoff due to incoming traffic. The pressure was on and we took the bait.

So, we departed, feeling fairly confident we understood our clearance and would comply with all restrictions. We quickly met the first two altitudes in the SID, and were now approaching OST VOR looking for 6,000 feet or above when our serenity was shattered. The controller called us for an immediate descent to 5,000 feet with a left turn to 160 degrees. There was no question as to the urgency of this command. The altimeter was reading 5,700 feet as we abruptly changed our flight path. The first officer understood the reason for the command when he saw another jetliner approaching from the right, slightly high, and about two miles away. The inbound traffic passed above and behind us, but the realization that the other aircraft had passed right through our altitude left all of us quite stunned and dismayed. The controller soon cleared up the confusion by telling us that the SID required a 5,000 foot crossing at OST, not 6,000, and we were in violation.

Later we were able to reread the SID and discovered we had misread the OST altitude restriction. Recognizing our potentially fatal error makes clear the need to demand time and not be forced into rushing. There is an old saying, "The worst that can happen to a controller is that he could spill his coffee or fall off his seat." As long as we are on the ground, this applies equally well to us as pilots. Once airborne, however, there is a whole lot more at stake. *Illigitimi non carborundum.*

Hunt the Hurricane

by Capt Bill Sadler
451st Flying Training Squadron
Mather AFB, California

Each spring tropical storms threaten lives and properties in North and Central America and the Pacific. Tracking their progress and severity, Aerospace Rescue and Recovery Service's "Hurricane Hunters" plunge their WC-130s into the storm's eye to gather data. In the Pacific, "Typhoon Chasers" perform similar duties. Through professional dedication to doing their jobs safely, the crewmembers and support personnel of these three squadrons combined have earned 45 consecutive MAC Accident-free Flying-Year awards. This poem is dedicated to all those who risk their lives in pursuit of nature's most powerful and awesome weather phenomenon.

There's a storm off Puerto Rico,
And Miami wants to know,
If the thing is going to fizzle,
Or become a full-fledged blow.
So we put a plane and crew to bed,
And we're all set to go,
We hunt the hurricane.

We have seven sturdy aircraft,
And about a hundred ten
Hardy souls who stalk the fury,
Fled by other men,
And earn their pay by flying Herks,
Where few have ever been,
Inside the hurricane.

The Herk is ready, so are we,
Briefed and blessed and gassed,
Let's get this mission on the road,
The sun is sinking fast,
By dawn we have to find the storm,
And have the data passed,
About the hurricane.

Loaded with thirty-six tons of fuel,
And a gallon of coffee or two,
Tonight we'll need every drop of both,
Before this flight is through,
Already skies are turning dark,
We're running out of blue,
Here comes the hurricane.

Now there's thunder all around,
There's lightning in the rain,
The pilots take two-fisted hold,
To guide our bucking plane,
And push the Herk into the storm,
There's no need to explain,
We've found the hurricane.

The storm now puts its deadly grip,
Upon our trusted Herk,
And tests our skill and fortitude,
With every twisting jerk,
Then pounds our plane with sheets of rain,
To keep us from our work,
Inside the hurricane.

We fight our way into the eye,
With careful, steady aim,
Then flash the word to everyone,
From Mexico to Maine,
There's trouble brewing for the Coast,
This storm has earned its name:
A full-blown hurricane.

We do our job inside the eye,
It's where we won our fame,
And though we've beaten nature's rage,
The end remains the same:
There's only one way out of here,
It's back the way we came,
Back through the hurricane.

An Army Aviator tells of a personal brush with disaster and explains why . . .

It Can Happen to You

by Capt George Kerrigan
U. S. Army Safety Center
Fort Rucker, Alabama

Maybe you are an extremely lucky pilot who has logged thousands of flying hours without a problem. If so, congratulations. But the fact remains that even if this is the case, you are not immune from *future* inflight emergencies.

Last year, for example, Army aviators had more than 2,600 such inflight adrenaline drills. Most terminated in precautionary landings. Unfortunately, some did not. Curiously, one ingredient in the formula that invites problems is the pilot himself. Like it or not, we often find ourselves in unenviable situations that are of our own creation. And three of the many cause factors that can put us there are pride, overconfidence and impatience. In the war story I'm about to relate, all three were present.

It all began one dark and rainy night in 1968 while I was stationed in Vietnam. I was assigned to fly an individual who was on emergency leave to Ben Hoa from our base at Phuoc Vinh, a distance of only 22 nautical miles over basically level ground covered with 150-foot-high trees. The flight to Ben Hoa was uneventful. After dropping my passenger off, three people requested that I fly them back to Phuoc Vinh. The weather at this time was 1,000 feet overcast with heavy rainshowers, and rapidly deteriora-

ting visibility. The horizon could be seen only where ground lighting existed. In retrospect, I should have cancelled the flight right then and there, but I didn't. I was confident in my ability to cope with most any situation and felt certain I could handle the OH-6 (even though I was relatively new in the aircraft, having flown most of my time in OH-23s). Further incentive for accomplishing the mission was probably my desire to avoid harassment from my peers which might result from an unplanned RON. Finally, even though adequate quarters were available at Ben Hoa, I wanted to get "home." There, in a nutshell, were my three sins of pride, overconfidence, and impatience.

At takeoff, the weather was so bad I showed a passenger who was in the copilot's seat how to monitor the altimeter, and told him to warn me any time it indicated less than 400 feet—a precaution I was later glad I had taken. After departing Ben Hoa, I climbed to about 500 feet AGL. Relying on peripheral vision and the ground lights of Ben Hoa, I flew some five miles northeast, searching for the lights of Phuoc Vinh. I had to circumnavigate several heavy rainshowers and was flying in light rain when I spotted what I thought were three lights in the Phuoc Vinh area. I then transitioned my visual reference from the little remaining ground lighting associated with Ben Hoa to the three lights up ahead and began using them for a visual horizon. The situation in which I had placed myself, the passengers, and the aircraft became obvious to me when one of the lights suddenly went out like a match, and I realized they were flares and not illumination from the base at all.

But, instead of taking immediate corrective action, I continued to look at the two remaining lights until one of them went out also. At that time, I realized I no longer had a visual horizon. Rather than transition to instruments as I should have, though, I snapped my head to the right and began a right descending turn to reestablish visual contact with lighting in the Ben Hoa area. The combination of these two actions immediately brought on a severe case of vertigo. Although I could see the airspeed indicator was bouncing from zero to ten knots, my own misleading senses told me I was descending vertically at an extremely high rate of speed. Mentally, I was incapable of believing my instruments, and I could not force myself to push the cyclic forward to regain airspeed. As far as I was concerned, a crash was inevitable. My only thought was to try and hit the ground with the aircraft right side up.

While I could not force myself to push the cyclic forward, I did manage to lower the collective to a near full-down position. Later, I found out that what appeared to me to be happening in a rapid and uncoordinated manner was actually occurring quite slowly and causing little or no concern to my passengers.

When I lowered the collective, I did not apply a corresponding amount of right pedal. This placed the aircraft in a basically level, rapid descent, while rotating slowly counterclockwise about the mast. As I descended through 400 feet MSL, to about 100 feet above the trees, the passenger in the copilot's seat shocked me into reality by shouting that we were below the 400-foot level. His sudden warning caused me to immediately pull in collective pitch, stopping rotation of the aircraft. Suddenly, I found myself looking at the lights of Ben Hoa beneath the overcast sky. I now had a real horizon with which to orient myself, and my vertigo disappeared as fast as it had appeared. Immediately, I moved the cyclic forward into coordinated flight and, needless to say, returned to Ben Hoa.

This emergency should never have arisen, but once it did, an accident should have been the result. And had one occurred, the only accurate diagnosis would have been pilot error—an error in my judgment. I had allowed my feelings to dictate my actions instead of arriving at a sensible conclusion based on known facts.

However, my experience simply illustrates only one example of a pilot's willful actions resulting in an emergency situation. In my case, weather was also a factor. But weather does not have to be a factor for a pilot-induced emergency to arise. It could be an improper preflight or inadequate cockpit check or a willful violation of SOPs or regulations, such as performing unauthorized low-level flight and striking wires. The point is simple. When an aviator allows his feelings or personal desires to overpower his judgment and govern his decisions, he may very well find himself in hot water. I did. And believe it or not, it *can* happen to you.

—U.S. Army *Flightfax*

Back in 1948, before MATS was born, a pioneer airlifter started conserving valuable lives and assets with a unique risk management program.

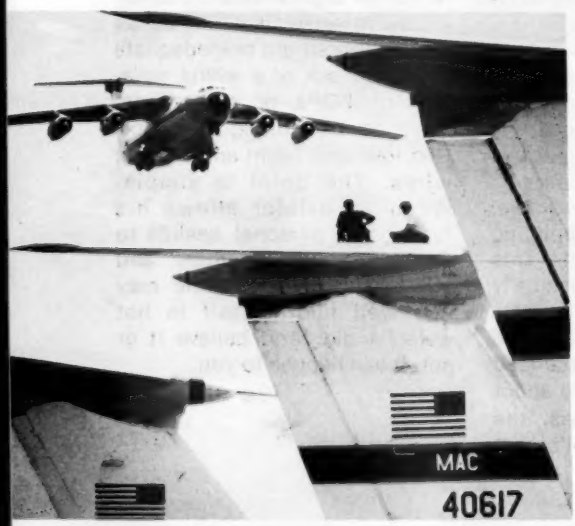
Genesis of Flying Safety

by Major James G. Gibson II
Supervising Editor

A really comprehensive flying safety program has been such an integral part of Military Airlift Command's way of life for so long that we tend to take it for granted. How it originally came about is one of those interesting little tidbits of trivia that you run across every so often if you rummage around in the annals of airlift history. Credit for the conception and implementation of a flying safety program goes to General William H. Tunner, an Air Corps officer regarded by many as the "Father of Airlift." Although his development of numerous airlift operating concepts and techniques in the 1940s and '50s is recognized as the basis of the airlift management system still in use today, General Tunner, himself, considered his implementation of a flying safety program in the Air Corps Ferrying Command during its early days as one of his most valuable contributions to aviation.

According to his memoirs, the idea for a flying safety program began to take form in 1942 during a series of discussions between Tunner and his brother, who was an executive with a major insurance company which handled several large industrial policies. The general's brother explained to him how, in an effort to head off accidents and the costly damage claims that resulted, the company was sending in experts to inspect potential policyholders for likely trouble spots and sources of danger. Once a policy was signed, these visits were repeated on a regular, follow-up basis to make sure old hazards didn't recur, and to see that new ones which cropped up were nipped in the bud. Representatives from the insurance company also helped set up and encourage safety education and motivation programs for their industrial policyholders, and they investigated any accidents that did occur to find causes and recommend corrective measures.

Speculating that this kind of program had the potential for preventing mishaps in the Air Corps, General Tunner called in one of his staff officers who had been involved in similar activities with another insurance company before entering the military. With his "assistance," the General established a cadre of inspectors and flying safety officers who served in special sections at each echelon of the Ferrying Command's



organizational structure. Their job was to review the procedures and practices of other departments and sections with an eye toward preventing accidents, and they were also involved with the safety committees which were formed to review the causes of accidents that did occur and recommend corrective action.

The first real "trial by fire" for Tunner's flying safety program came about two years after its birth, when he was tasked to take charge of airlift operations in the India-China Division of the China Burma India (CBI) Theater in 1944. His charter was twofold and tough—increase the tonnage and cut down on the unacceptably high number of accidents. C-46s and C-47s flying cargo from India to China over dense jungles and the treacherous mountain routes, nicknamed "The Hump" by the pilots, had been crashing in alarming numbers after falling prey to the twin threats of unpredictable weather and mechanical problems. There was quite literally an "aluminum trail" of downed aircraft along the way.

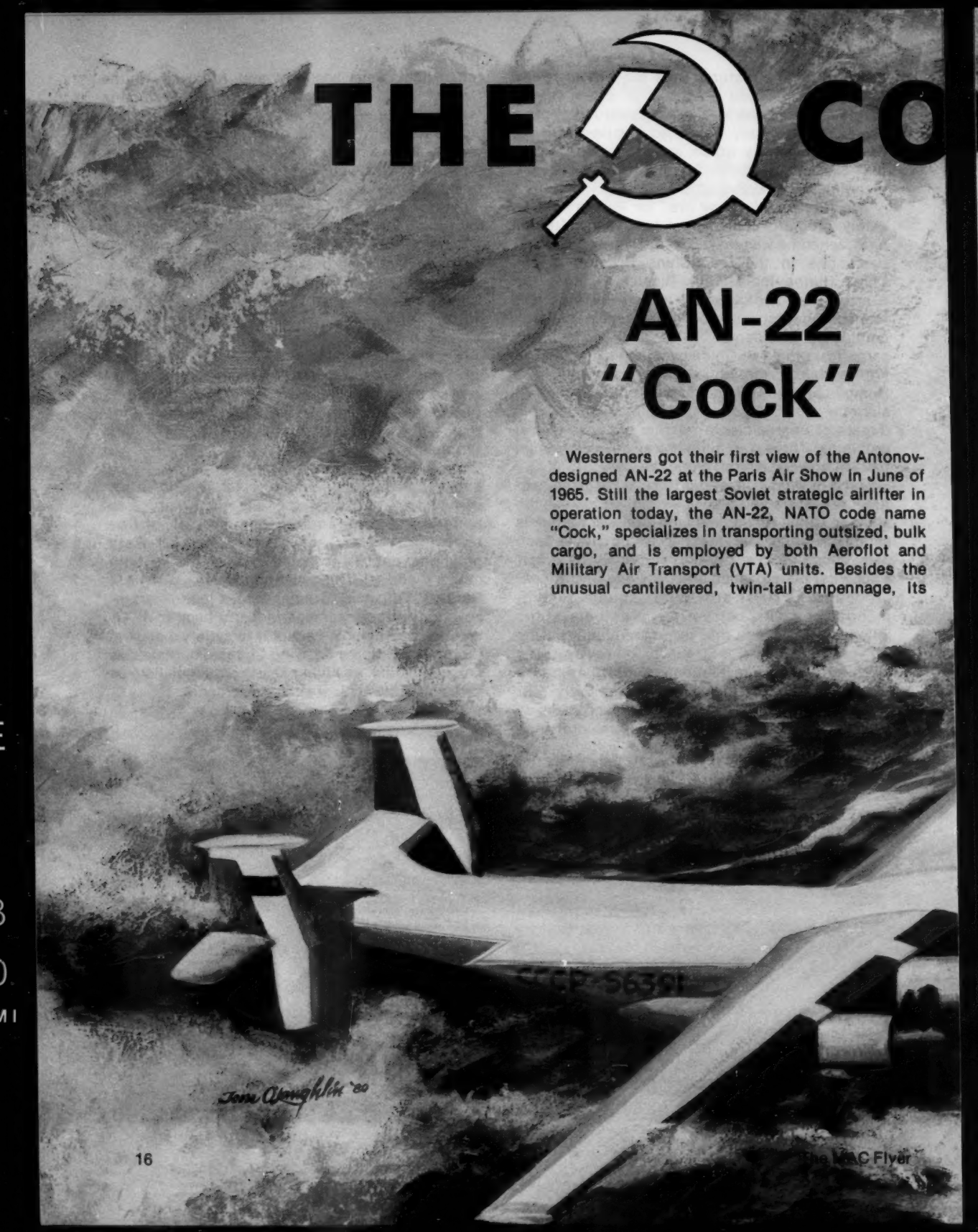
Much of what Tunner did to curb the carnage of American flyers and planes struggling to keep the allies in China resupplied with vital war materials sounds routine and familiar to us now—such precautions as investigating and analyzing flight accidents, maintenance practices and operational procedures, and providing sound recommendations for correcting problems, plus following up to see that recommendations were carried out. In the mid 1940s, however, these ideas were pretty revolutionary, and they had a dramatic impact on the accident rates in the CBI Theater. By covering every angle in such areas as making sure that aircrew and maintenance checklists were accurate and followed to the letter, curtailing flights into known hazardous weather, and seeing that flyers received adequate food and rest, a trend of devastating losses in men and machinery was turned around. Some airlift tonnage was sacrificed at first, mostly as a result of cancelling flights or having them turn around when they encountered hazardous weather. But in the long run, overall tonnage figures climbed far above the best records that had been achieved before Tunner took command, and they kept climbing until the end of the summer of 1945 when the Japanese surrendered. In fact, during the last month of operation over The Hump, total airlift exceeded 71,000 tons, while the accident rate of .239 per thousand hours of flying was the lowest on record. Tunner had proved beyond a shadow of a doubt that increased airlift doesn't necessitate higher accident rates—if you have an effective flying safety program.

By the end of the war, his ideas about flying safety were beginning to catch on in other commands, and after the war they were also widely adopted among commercial airline operators. Today, of course, flying safety programs are an accepted fact of life in both military and civilian aviation circles. But until General William H. Tunner took a look at an innovation in the insurance industry back in 1942, and decided he could adapt it to satisfy a need in the Army Air Corps Ferrying Command, there was no such animal as Flying Safety around to help us in the struggle against aircraft accidents.

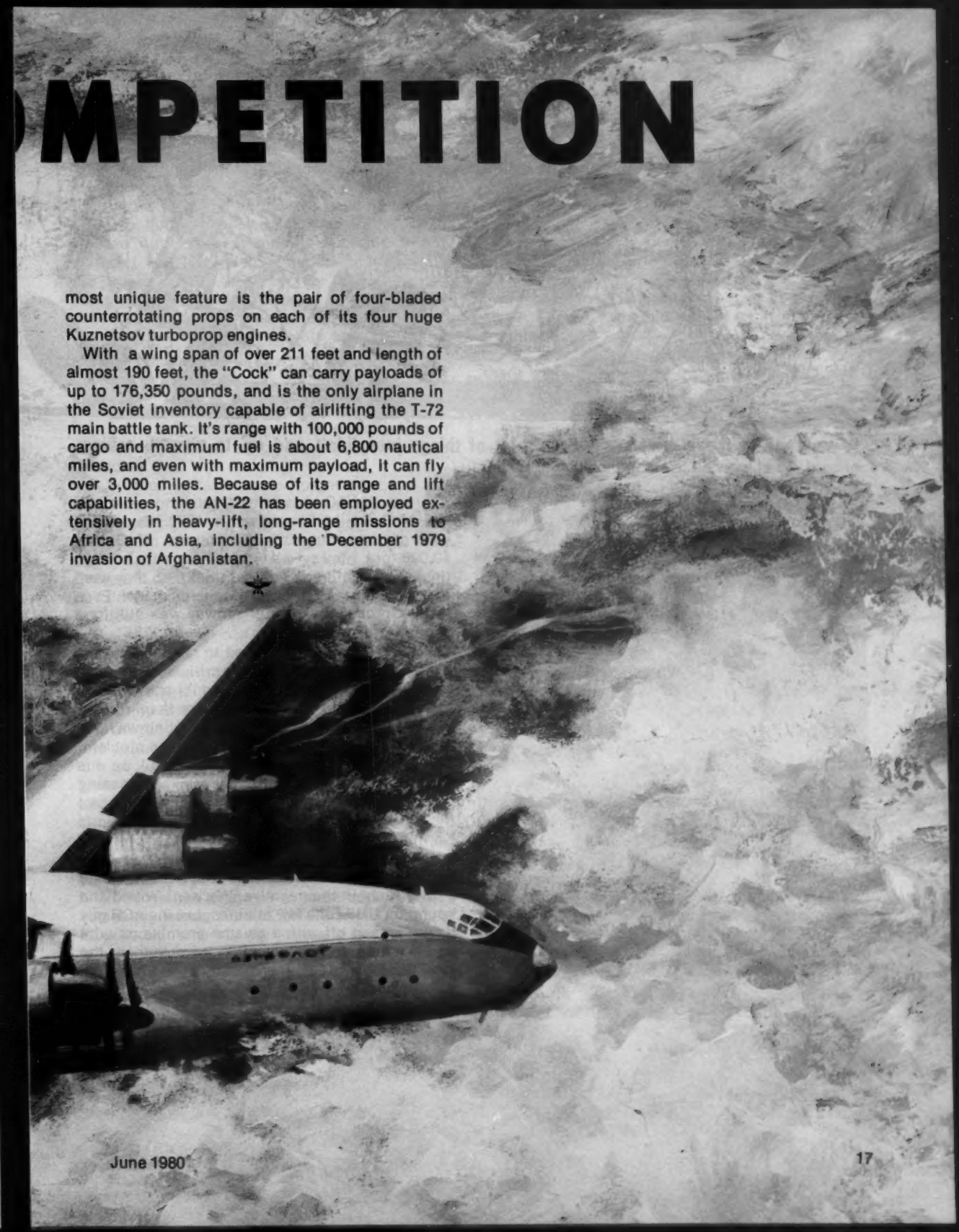
THE CO

AN-22 "Cock"

Westerners got their first view of the Antonov-designed AN-22 at the Paris Air Show in June of 1965. Still the largest Soviet strategic airlifter in operation today, the AN-22, NATO code name "Cock," specializes in transporting outsized, bulk cargo, and is employed by both Aeroflot and Military Air Transport (VTA) units. Besides the unusual cantilevered, twin-tail empennage, its



MPETITION



most unique feature is the pair of four-bladed counterrotating props on each of its four huge Kuznetsov turboprop engines.

With a wing span of over 211 feet and length of almost 190 feet, the "Cock" can carry payloads of up to 176,350 pounds, and is the only airplane in the Soviet inventory capable of airlifting the T-72 main battle tank. It's range with 100,000 pounds of cargo and maximum fuel is about 6,800 nautical miles, and even with maximum payload, it can fly over 3,000 miles. Because of its range and lift capabilities, the AN-22 has been employed extensively in heavy-lift, long-range missions to Africa and Asia, including the December 1979 invasion of Afghanistan.

It was one of those missions where a lot of things just didn't add up to smooth sailing.

A Heavy War Story

by Major Bruce L. Gumble
7th Military Airlift Squadron
Travis AFB, California

I was the AC on a "memorable" mission from McGuire to Elmendorf in 1970. Our C-141 was grossed out—325,000 pounds. McGuire's 10,000-foot runway was closed for construction (installing centerline lights, I think), so they were operating on the 7,130-foot economy model. Even at max gross, the shorter runway was still long enough—but just barely.

As we taxied out, it started to rain. I asked the engineer if he'd computed the critical field length using a wet-runway RCR. He hadn't, and when he recomputed, the CFL was greater than runway available, so we couldn't use the short runway.

I called ACP and told them about the problem. The controller poured some snake oil on his tongue and smoothly informed us that opening the long runway would take 20 minutes and blot the wing's escutcheon with a delay; so why didn't we just go ahead and use the short runway because everybody knows nothing ever goes wrong anyway. I responded with an extremely strong reply in the negative. We went 'round and 'round on UHF for a few minutes, but the ACP guy finally signed off with a solemn promise to write nasty letters to my squadron commander, the local Chamber of Commerce, and my mother.

Tower obligingly chased the dump trucks off the runway and we started our takeoff roll about 15 minutes late. The airplane seemed a little bit sluggish, but we expected that—after all, we were grossed out. We kept rolling, and rolling, and rolling. I was beginning to understand how KC-135 tanker drivers feel when we finally reached rotate speed. I pulled back on the yoke, but nothing happened. I pulled harder—still nothing. We were ten knots above rotate speed, but the airplane wouldn't fly. I saw the 2,000-foot-remaining marker go by, felt another surge of adrenalin, and *finally* managed to haul the nose off the ground. The airplane rumbled along on the mains for another thousand feet or so and then reluctantly decided to part company with the macadam.

It seemed to take forever to get the beast accelerating properly and cleaned up. We couldn't find anything wrong with the Starlifter, so we pressed on. We'd flight-planned for 35,000 feet, but the airplane wouldn't even hold 31,000. We flew at FL 280 for a while, burned off some fuel, and finally managed to wallow up to a respectable altitude.

By this time our collective genius had diagnosed the problem as a severe case of overweight. We got the loadmaster to recheck the pallet weights and fire up his abacus, but everything still looked good on paper. We'd have to reweigh the cargo to find out what was wrong.

In retrospect, it was obvious that only a lucky rain shower back at "Quagmire" had saved our lives. If we'd tried to use the short runway, the last part of our takeoff roll would have been through a local shopping center. We phone-patched Elmendorf ACP, told them what was wrong, gave them a maintenance status of "alpha three" and told them not to alert a crew.

When we got to the Alaskan aerodome, it was somebody else's turn to be "lucky." Command Post had ignored our warnings and alerted a crew for the airplane anyway. Those hapless green baggers were already waiting when we blocked in—which wasn't standard procedure, or even a frequent occurrence. Most of the time, stage crews pass like blue buses in the night without being able to exchange so much as a greeting. This time was an exception, which is probably why those guys are still alive.

I knew the AC; he was a young captain from my own squadron. "Jim, what are you guys doing here?" I asked. "We told 'em not to alert anybody for this bird."

He looked puzzled. "How come? ACP just said there was some kind of mixup on the manifest, and we should check the Form-F weights against the numbers on the pallets."

When I told him we'd already done that and explained what the problem really was, he turned ashen. If he hadn't met us, he would have tried to take off with the same overload we had at McGuire—and, as luck would have it, Elmendorf's long runway was closed, too. They were using their 7,500-foot strip—the one that ends at the base of a small mountain.

We marched into ACP in close formation and had a short, intense counseling session with the duty controller. After giving us the usual abuse about being foot-dragging, no-go, non mission hackers, he agreed to have the load pulled and reweighed.

The following day our worst suspicions were confirmed by aerial port: the load was actually 15,000 pounds heavier than what the figures on the manifest showed it to be.

Postscript: Outside of recounting a spine-tingling combination of both needlessly dangerous and extremely lucky circumstances, this story has some good lessons for crewmembers. Perhaps the best is, don't let anybody talk you into violating the rules to save something as fleeting as a reputation or record. Most flying regs are designed for your protection and have a very strong foundation, firmly based on the bedrock of previous disasters.

Close Look II

by Capt James P. Coe
Associate Editor

This project asked, "How can MAC deliver the goods safely in future combat situations?"

A C-141B descended gracefully along the glide path toward a German airfield. The cargo compartment was tightly packed with army jeeps bristling with anti-tank TOW missile launchers. Drivers and 62 other fully-equipped soldiers were wedged into the troop seats alongside the vehicles. Suddenly a violent explosion rocked the Starlifter as the left-outboard engine was blown away. An intense fuel fire errupted immediately and the crew struggled to retain control of the stricken aircraft. Their efforts were to no avail, and the crippled airlifter careened into a hill three miles short of the runway. Six crewmembers and 70 passengers aboard were the first aerial fatalities of a new military conflict. The Russians were coming, and ready or not, MAC was going to war.

If you haven't thought of your job in such bellicose terms, then you're not alone among airlift crewmembers, according to one of the findings of the MAC Commander in Chief's Close Look II project. During 1979, CINCMAC directed the first comprehensive review of MAC tactical operations since Close Look I in 1963. Changing defense postures and doctrines fostered the project's charter, which was to seek the best ways to improve our C-130 and C-141 combat employment capabilities through better tactics and equipment. Unlike Close Look I, this project also studied better integration of airlift forces with other ground and air combat forces.

Phase I of the project was recently completed after about three months of concentrated work. The Close Look II task group assessed current and future threats that airlift might face in a combat employment. They followed that with a review of current capabilities, doctrine, and tactics. Next they investigated readily available equipment that might be acquired from other services and civilian manufacturers. They also looked at ways that MAC could work more effectively with its primary wartime users. Finally, the Close Look II team brought together its findings and recommendations in a report to CINCMAC.

Several important assumptions served as guidelines for the project. First, Close Look II assumed that air mobility would continue to be an important part of future war plans. It also presupposed that tactical airlift aircraft would continue to play a part in MAC's wartime operations, and that the new stretched Starlifter would be used for combat airdrop missions much the same as the C-141A is now. Looking at the airlift aircraft, it assumed that the life of the C-130s would be extended through at least 2000 AD, but that the C-7 and C-123 would be phased out as planned. On the subject of training, the group wisely assumed that area would remain responsive to doctrinal changes, but high fuel costs would prohibit additional allocations of flying time. These may all seem obvious to MAC crewmembers, but it was necessary that the group's base-line

position be clearly established.

Next, Close Look II project people made what they believed to be a realistic assessment of MAC's current capabilities, and came up with this impressive list:

- We have about 950 aircraft (not counting C-5s), one-half of which are in the ARF, to perform the tactical mission.
- Our total active and reserve C-130 force is theoretically capable of airlifting 15 to 20-thousand tons of cargo and passengers per day over typical intratheater distances.
- The C-141 fleet can move about five to ten-thousand tons per day, each way, in a transatlantic shuttle.
- The C-130s, teamed with the C-141 airdrop units, could theoretically deliver the equivalent of about one Army Airborne Division in VMC, or two Army Battalions under instrument conditions.
- MAC has 13 ALCEs worldwide and can theoretically staff more than 20 separate operating locations simultaneously.
- Total airdrop rigging capability is currently about 600 tons per day, but this would be increased to meet wartime needs.

The project officers also identified a number of problem areas that found their way into findings and recommendations. Here are some examples:

- C-130B and E aircraft have some airframe-life problems, but a $300-million-plus modification program for fiscal years 81 through 86 will resolve the problem.
- Combat Control Team manning requires bolstering worldwide to meet both peacetime training and wartime combat needs.
- Only six air transportable ALCE shelters exist.
- Information on the effect of high-speed low-level flying on the C-141B is very limited.

With a good handle on MAC's capabilities, the Close Look II folks hit the road to find out what crewmembers, staffers and commanders thought about our current employment tactics and equipment. They visted every active C-130 tactical airlift unit and the C-141 squadrons with combat airdrop tasking. They also visited the Airlift Center, the airlift command centers in the Pacific and in Europe, and Air National Guard and AFRES units. In all they talked with over 5,000 people from MAC, other MAJCOMs, the Army and the Marine Corps.

They also assessed the literature on airlift tactics currently available in MAC, Air University, Systems Command, the Airlift Center, and AFTEC. From these interviews, symposiums and searches, the project officers got a good handle on our tactics and how they are actually perceived by the people who will have to use them.

Finally they developed three separate scenarios to test MAC's employment capabilities and tactics. One plan called for a "classic" large-scale conflict between NATO and the Warsaw Pact nations. This scenario included airlift operations in one of the most intense air-defense zones in the world. A second fictional battle, set in the Middle East, revolved around a border struggle between Saudi Arabia and Iraq. The Saudis asked for U.S. help, especially in defending the transarabian pipeline and oil shipping complexes. The third confrontation was in the Republic of Korea. The air-defense environment there is considerably different from that in the other scenarios due to variations in equipment and the rugged terrain.

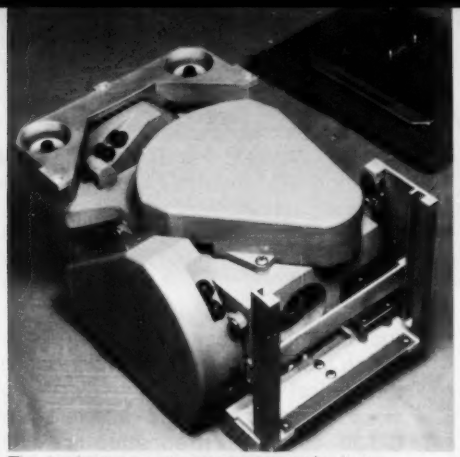
Results of a comprehensive threat assessment and tactics evaluation based on these scenarios were augmented with inputs from field visits and other research. Close Look II came up with several interesting findings:

- Current tactics are limited in many cases by the basic characteristics of the C-130 and C-141 and their systems. Because of this, dramatic changes are unlikely.
- Refinements and enhancements are clearly needed to keep pace with the changing operational environment, however, many require new or modified equipment.
- Training emphasis isn't currently focused on those tactics most likely to be used in future contingencies.
- Aircrew training programs aren't producing a degree of readiness commensurate with the resources being spent.

In search of ways to do our wartime job better, Close Look staffers scouted for equipment available from civilian industry or that might be acquired from our sister services. They found a variety of technologically advanced hardware that could help airlifters deliver their goods safely in a combat environment. Several of these pieces of equipment found their way into the study's recommendations.

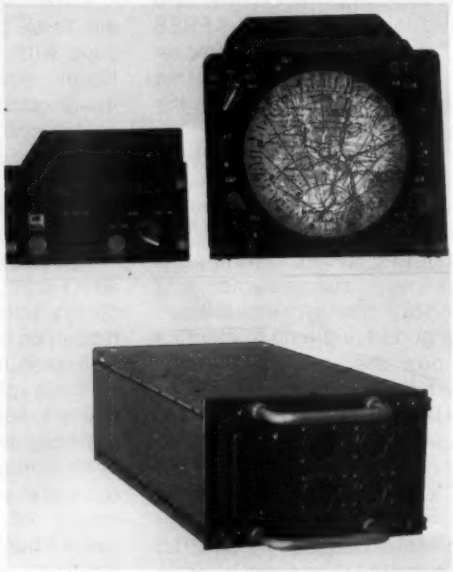
The recommendations are grouped by tactics, and force integration. The tactics recommendations are laid out in mission sequence, i.e., mission planning, ground operations, enroute, airdrop, etc. It's important to note, by the way, that Close Look's recommendations are just that—*recommendations*. They are guideposts that point the way for a more efficient and safe employment of

These self-contained night vision goggles can light up your night with less than 1% distortion.

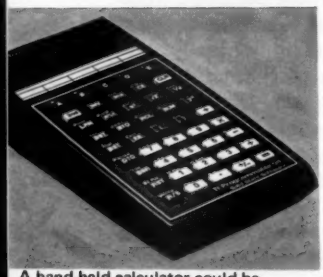


The ring laser gyro measures movement in all three planes without use of a spinning wheel. It senses angular rates by checking the frequency difference between two contrarotating laser beams in each of the triangular cases of the instrument.

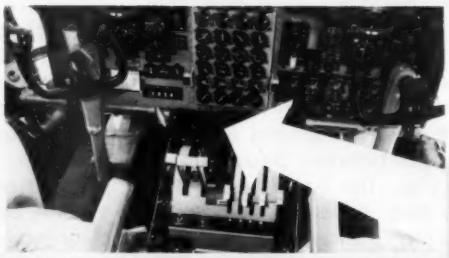
This projected map system uses information from a navigation computer to keep track of the aircraft's position on a standard terrain chart that is shown on the cockpit display.



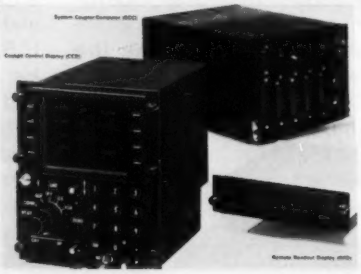
Thirty of these lightweight tacans (AN/TRN-41) are being produced for MAC. They transmit bearing and distance information up to 75 miles and can be set up in 15 minutes.



A hand-held calculator could be programmed to help crewmembers figure CARPs and TOLD cards, and to solve navigation problems.



The US Coast Guard is presently using this integrated cockpit management system in four of its C-130Hs. It can help the crew by allowing them to preprogram many of the necessary communication and navigation radio frequencies. A control unit at the navigator's station helps lighten the pilots' workload.



airlift forces. As crewmembers you may see some, or only a few, of the changes that were recommended. Budget constraints and long procurement lead times may keep some proposals from yielding immediate dividends. On the other hand, it's equally important to note that work on some of the project's recommendations has already started. Additionally, the existance of Close Look II itself has generated increased tactics awareness throughout the command, and that's very good, as the first recommendation points out.

Tactics

One of Close Look II's first recommendations involves increased emphasis on a "think war" attitude. To enhance the quality of the tactics function, the group recommends the initiation of a "tactics shop" at the flying squadron level. MAC needs more of the kinds of intelligence products used by combat crews in wartime. This will require increased manning at all levels for intelligence, according to the task group.

Getting into some of the more specific areas, the increased use of automatic data processing at the unit level is recommended. Using desk-top computers in the squadron for jobs like flight planning, CARP computation, scheduling and resource management should be evaluated. For the individual crewmember, Close Look II recommended the use of programmable hand-held calculators be considered. As an example, it currently takes about 15 to 20 minutes to figure a CARP using MAC Form 512; with an individual programmable calculator it takes about a minute, and that includes loading the program.

For the enroute portion of the mission, Close Look II recommends expediting programs to obtain secure, jam-resistant communications for aircrews and control agencies. It was also noted that our communications discipline needed to be tightened up. A variety of communications hardware enhancements for tactical aircraft were recommended, along with a new type of altitude alerting system.

The project's most significant recommendation in this portion of the report, and their number-one equipment recommendation, was the procurement of a high-accuracy inertial navigation system for the C-130. This is felt to be absolutely critical if the Herk is to continue to operate effectively in a modern battlefield environment. The threat assessment indicated that without a high-precision system, the tactical airlift mission will simply be backed further away from the battle area. Many types of inertial navigation systems (INS) are available, and one of the best of these has an average drift rate of only 0.05 to 0.08 miles per hour.

To insure delivery of our combat cargoes where they are needed in bad weather, the project recommended development of the capability for precision instrument approaches to austere airfields. Testing and evaluating increased use of radar beacons, and lightweight portable generators in lieu of batteries for certain approach aids, plus methods of marking non-rectangular DZs were also recommended. For aircrews, one of the most significant recommendations was development of simplified aerial delivery checklists with emphasis on streamlined procedures and decreased intercom chatter.

Force Integration

Close Look II also made several recommendations about how MAC could work more effectively with other MAJCOMS and Armed Services. They include:

- Develop and implement training in the tactical air control system for aircrews.
- Increase MAC slots in Air-Ground Operations School.
- Evaluate the capability of AWACS aircraft to support large airdrop or airland operations.
- Develop and buy air-transportable ALCC and ALCE modules.
- Obtain organic communications and data processing capability for deployed airlift units.
- Expedite full manning of the worldwide Tactical Air Liaison Officer system and provide additional communications resources for it.

There are, of course, many other recommendations in addition to those covered here. Many are directed toward obtaining improved support for the combat mission, and others address test and evaluation of various types of equipment and procedures.

Phase I of Close Look II was very successful. The changing international situation has resulted in a number of new initiatives to enhance MAC's strategic deployment capability. Close Look II will provide a framework for a complementary program to enhance MAC's employment capabilities. Together these efforts will insure a proper balance in MAC's ability to respond to a full spectrum of airlift requirements, and any type of future contingency with the highest possible degree of effectiveness and safety.

DEJAVU

Keesler AFB Mississippi
(elevation 35 feet)

Keesler AFB is located in the city of Biloxi, Mississippi, on the Gulf Coast. Its single runway (03/21) is 7,630 feet long and 150 feet wide, but has displaced thresholds at both ends which reduce the effective length for takeoffs and landings. Runway 21's ILS is the only precision approach available, and a short approach lighting system, VASIs and high intensity runway lights make it the preferred instrument runway. ASR and tacan are available to both 03 and 21 and a VOR approach using the Gulfport vortac allows for circling maneuvers in either direction. The airfield complex, including all taxiways and ramp areas, is east of the runway. Parking space at Keesler is extremely limited and the ramp is rather smallish by MAC standards. Parking any aircraft larger than a CT-39 within a mile of base ops will definitely require wingwalkers and an expert marshaller. The base also supports a large and active aeroclub which contributes to local traffic congestion on VFR days.

Numerous towers in the local area present the only obstruction hazard to the otherwise flat surrounding terrain. The tallest potential plane scraper reaches 1,539 feet MSL and is located 21 miles north of the field.

Gulfport Municipal, located nine miles west, is the closest airport and one of its runways is longer than Keesler's. The nearest military airfields are Navy New Orleans, 67 miles to the southeast, and Pensacola Naval Air Station, 84 miles east.

—Adapted from ISD-Q7-904

On short final for runway 21, note the displaced threshold which is 1,000 feet from the end of the runway.

Approaches to runway 03 come in over the Gulf of Mexico and the beachfront at Biloxi. Be alert for light aircraft navigating along the shore.

The threshold for runway 03 is displaced 1,600 feet from the end of the runway. The parking ramp is to the right.

C.R. TERROR

Misplaced priorities earn the Field Grade Fumbler a Q-3 when he tries to second guess his arch nemesis.

Feeling an unspecific but definitely uncomfortable sensation creeping up his spine as he sat complacently in the left seat of his Galaxy awaiting the arrival of some last-minute passengers, C.R. turned slowly to peruse the congregation in the cockpit. His eyes passed over Long Sufferin' Sam, who was busy in the right seat copying the clearance, and the student engineer, engrossed in computing a performance data problem Sergeant Torque had given him to solve. Next to Torque, the squadron's assistant ops officer was carrying on an animated discussion with somebody over his brick. Turning in his seat and straining against his shoulder harness to see what Blinky, the navigator, was doing, the Nearly Fearless Flyer felt a cold bolt shoot through him as, out of the corner of his eye, he spotted the source of his strange uneasiness. There, standing quietly beside the crew entrance door, surveying the flight deck with the predatory calm of a panther contemplating a flock of sheep was the Rotund One's arch nemesis—MacZaminer! A second jolt of adrenaline shot through C.R. as his eyes briefly met the steely orbs of the world's toughest flight evaluation pilot.

Doing his best to remain composed, at least in appearance, the Ace of Aerospace smiled weakly and melted back into his seat to await the inevitable. It was not long in coming as the

jut-jawed countenance of the grim reamer materialized between the pilot and copilot seats.

"Major Terror," announced the always disarmingly placid voice, "I will be giving you a no-notice checkride on this leg. Other than perhaps a few routine questions later on, I won't be bothering you. I will, however, occupy the jump seat so I can watch you fly. Any questions?"

His mind a jangle as he contemplated in "fast action" several dozen disasters that could happen—and probably would if his last ride with MacZaminer was any indication, C.R. could only manage a subdued, "No questions at this time." The words sounded stilted and stupid and he kicked himself mentally for his inability to keep his cool.

There was little time for recriminations once the passengers were trundled aboard. MacZaminer strapped himself into the jump seat and when C.R. started the checklist, the intrepid inquisitor commenced making entries in a miniature loose-leaf notebook he had produced from a pocket in his form-fitted green bag.

I'll bet he's *already* Q-2d me on engine start and taxi procedures, agonized the Anxious Aeronaut to himself as he maneuvered the Galaxy into position for takeoff. Casting one more furtive glance over his right shoulder as the engines wound up, his worst fears were reinforced—the man from DOV was still scribbling furiously.

Enroute, after things had settled into the repetitive routine of a long overwater leg, the flight examiner voluntarily took the copilot's seat for a spell. During a lull between position reports, he gave C.R. a relatively mild grilling on Dash One emergency procedures and popped a few straightforward posers out of AFR 60-16 and MACR 55-1, which the Aviator with Avoirdupois fielded handily. Later, he checked C.R.'s pubs and found them to be in remarkably good shape. The only item not 100 percent in order was an unposted change to 60-16 which had only hit the squadron vee-files that morning. Remaining his usual inscrutable self, MacZ spent the next two hours playing copilot—and to C.R.'s unending frustration—filled up several more pages in his mysterious little notebook between radio calls.

Darkness came on quickly, and passing Kirn VOR, Ramstein Approach Control cleared C.R. and company to descend and cross Donnersberg Intersection at 5,000 feet for an ILS approach to runway 27 at Ramstein. Everything was going along smoothly as they negotiated the 15 DME arc after transiting Donnersberg, until the Pudgy Pilot called, "Gear down, Before Landing Checklist."

"Looks like one of our slats is stuck," announced C.R.'s long suffering sidekick at the first hint of trouble.

"Roger on the slat," acknowledged the Threatened Throttle-Bender with studied calm. "Dig out the emergency procedures checklist and let's see if we can coax that asymetrical beauty back out where it belongs." Under his breath, the Bibulous Bumbler muttered to himself, "Now's my chance to show MacZaminer how a real pro performs under pressure."

Recycling the flaps per the

Dash One failed to accomplish much except diverting the crew's attention away from flying the approach. The single-track cerebrum of the Myopic Manipulator was contemplating yet another flap recycle when Mother MAC's favorite son came on loud and clear over interphone. "Pilot, Jumpseat, I suggest you take a look at your present position and altitude," he warned as they neared the area south of the field designated for a night low-level route.

"Omygosh," exploded C.R., who was all elbows and knee-caps for a couple of seconds when he realized what had happened. Busy with the troubleshooting checklist, he and the rest of the crew had let the C-5 descend to 2,500 feet and wander nearly five miles south of the point where they

should have turned inbound for final approach. Somehow, C.R. overcame the results of the Dash One distraction, honked the Galaxy around and got it back into the pattern and lined up on final at the proper altitude without the added embarrassment of an objection from the ATC controller about his bizarre approach maneuvers. Ironically, a quick scan with the illumination of the overwing spotlight (at MacZaminer's request) revealed that the questionable slat was actually in normal position despite cockpit indications to the contrary.

Coming down final with one mile to go and the C-5 lined up for landing, the major menace from MAC came on the horn again, "Pilot, Jumpseat. What would you do right now if you lost number two engine?"

There was a momentary pause as the Unsullied Skipper's brain churned, almost audibly. "Why, I'd take 'er around," he blurted as he extended a pudgy paw toward the throttles and began nudging the control yoke toward his considerable midriff.

"Hold it," barked the surprised standardizer, "I only said, 'What if?'. Let's get this bird on the ground before something serious *really does* happen."

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"You realize, of course, that I have no choice but to give you a Q-3 and deadhead you back home after that *faux pax* with the flaps and slats on the approach," observed the steely-eyed stan-evaluator evenly. He and the Born-Again Copilot sat alone in the former's BOQ room for the "debrief."

"I suppose," admitted the Field Grade Fumbler glumly.

"One thing really bothers me, Terror," MacZaminer persued, "Why didn't you just get a new airspeed from the engineer and continue with the approach? After all, even inoperative slats aren't that big a deal, especially that close in."

"I thought that being a standboard wee . . . , I mean person, you'd want to see how well I handled the Dash One procedures for a problem like that," reasoned the Improperly Prioritized Pilot.

"All I ever want to see," countered MacZaminer, "is safe and expeditious handling of the airplane. By the way, is trying to second-guess me the reason you started to go around with less than a mile on final and everything set for landing when I asked you what you'd do if you lost number two?"

"Well, I did sort of surmise that you wanted to observe my three-engine-go-around procedures when you asked that question," C.R. admitted sheepishly.

"If I'd wanted to see that, I would have asked for it," explained the evaluator, adding, in a philosophical tone, "It's really a shame. You had all your ducks lined up for most of the flight, but there at the end you let the little ones start leading."

"What do you mean?" queried the Rotund One." The way you'd been writing in that notebook of yours the whole leg, I figured I'd been had from engine start and only a dazzling display of aerial expertise under pressure could possibly pull my checkride out of the fire."

"You mean you thought I was recording malpractice comments on you the whole time?" MacZaminer asked incredulously.

"Yep," gulped C.R.

"It will probably amaze you—I know it did me, considering our last flight together—but until you botched up your approach over the slat problem the only adverse thing in my notebook regarding you was a very minor writeup on your 60-16."

"Then what was all that stuff you were putting in your little black book?" whimpered the intimidated former AC.

"Simple," chuckled MacZ, "I got an inspiration for a safety article to send to *The MAC Flyer*, and I was trying to get something down on paper while it was fresh on my mind."

"As I always say," moaned the Outscored Second Guesser, "Sometimes you just can't make a nickel."

QUICK STOPPERS

Programmed for Takeoff

The pilot of a flying-club Cessna requested an intersection takeoff on runway 36 at a large Naval Air Station, but the tower controller cleared him for a departure on runway 18 because of other traffic. Tower personnel watched as the light plane taxied onto the runway and turned to the south, apparently in preparation for a takeoff on runway 18.

At that moment, both controllers' attention was momentarily diverted by an emergency situation developing aboard another aircraft in the pattern. Unknown to them, the Cessna's pilot made a one-eighty and took off to the north. The "other traffic" using runway 18 was an H-3 now on short final approach. Fortunately, the fling-wing crew saw the departing bugsmasher and took evasive action to avoid a midair collision.

Although the air traffic controllers must take a part of the blame for this one, it's obvious that the light-plane pilot was mentally cocked for takeoff on runway 36, and didn't really comprehend the clearance to use the opposite runway—he had programmed himself for takeoff.

German Sidestep

Several airports around the world operate simultaneous, parallel ILS approaches; one of the most challenging is Frankfurt, Germany. Recently a C-141 crew was cleared for the ILS to runway 25-left at Rhein-Main; but the copilot dialed in the frequency for the approach to 25-right instead. The error went unnoticed by any of the crewmembers—apparently nobody bothered to tune and identify. Approximately 200 feet above minimums, the right-seater called, "Approach lights in sight." About the time the copilot called, "One-hundred above minimums," the tower cleared a DC-9 for departure on 25-right. Without knowing it, the 141 crew had sidestepped to the right and were lined up with the wrong runway. Fortunately, the commercial pilot spotted the Starlifter on short final and respectfully declined the clearance for takeoff. Just as the copilot called, "Land," the tower interrupted and sent the 141 around. The USAF jet was later resequenced for landing on the appropriate runway. Had the weather been just a little worse, or the timing just a little different, this incident could have ended in disaster.

Notable Quote

To err is human, but not compulsory.

—USN *Weekly Summary*

Preflight Oversight

After an early morning departure from an overseas airfield, the Hercules' flight to a neighboring base was uneventful 'till the landing gear was lowered. The right-main and nose gears indicated down and locked, but the left-main showed unsafe. The crew depressurized the C-130 and tried the manual hydraulic override to get the gear down. That didn't work, so the AC decided to return to home station where maintenance was available. Overhead homeplate, the Herk was again depressurized and the inspection windows in the cargo compartment removed. The crew then discovered that the gear was about an inch out of the locked position and the manual override was tried again—no luck. Next the airlifters pitted brute force through the mechanical gear crank system against the balky bogey, and forced the gear to give a safe indication. After landing, the C-130 began to settle to the left and the crew shut the engines down immediately.

After maintenance towed the aircraft to a hangar, investigators found a rag wedged into the gear system between the jack nut and the lower bumper stop. Understandably, nobody came forward and claimed the misplaced cloth.

Several times each year, reports of rags getting hung up in landing gear systems come through the *Flyer* office. In every case, the only proven prevention for this kind of mishap is heightened safety consciousness and meticulous preflight inspections by maintenance and aircrews alike.

Simulation Stimulation

A Navy student helicopter pilot was practicing autorotations under the watchful eye of an instructor. During one of the maneuvers the IP gave a simulated wave-off, which meant the student was supposed to discontinue the autorotation and recover with normal engine power. As the fledgling flyer rolled the twist grip from the flight idle position to full open he noted with wide-eyed disbelief that the engine was not responding to the throttle movement. At this point, the instructor took control of the aircraft, rolled the twist grip back to flight idle and again to the full open position—still with no response. Fast running out of both altitude and alternatives, the IP successfully executed a power-off autorotative landing to an adjacent runway.

We normally don't expect our simulated emergencies to turn into real ones, and the ability to cope with this unexpected development speaks well of the instructor's skill and alertness.

Browned Out Rescue

The Rescue crew was tasked to pick up two "simulated survivors" as part of an exercise. The Jolly Green was commanded by an IP and flown by a copilot who was upgrading to AC. Arriving at the pickup point, they descended and attempted to set up a 50-foot hover. The recovery site was a dry, recently plowed field and blowing dust started to engulf the H-3, so they climbed to 100 feet AGL to avoid a brown-out.

Establishing the hover with near-maximum power, the crew began a hoist-pickup sequence. The hoist operator lowered the forest penetrator and the rescuees, aided by survival instructors, groped through the dust to board the device. After about three minutes of hovering above the massive dust cloud, the right-seater began to have a little trouble holding everything steady, and the Jolly Green drifted forward some. The flight engineer called for the pilot to back the aircraft up to reposition it over the survivors. Coupled with a wind shift, the backing maneuver caused the rotor rpm to decrease. Noticing that the lesser experienced pilot was having some trouble, the IP took control of the helicopter. The hoist operator didn't hear the change-of-control commands. Because of wind noise and radio chatter the IP didn't hear the hoist operator announce that one of the survivors was on the penetrator.

A few seconds later, both pilots felt the aircraft descend so they increased collective. This caused the rotor rpm to droop dangerously low. Lowering the collective, the IP pushed the stick forward to initiate forward flight and regain rotor rpm. Not knowing the survivors were on the hoist, the IP commanded, "Bring it up." The hoist operator thought the IP was giving instructions to the copilot, and when the helicopter started to move forward he let out more hoist line believing it was a momentary deviation. Next the sergeant looked forward into the cockpit and realized that the helicopter had transitioned to forward flight. When he looked back at the hoist line, it was taut. He immediately guillotined the cable, but the two, simulated survivors had already been drug 80 feet, becoming survivors with real injuries.

The crew had wisely avoided the brown-out condition by hovering at a higher altitude, but nearly defeated the purpose of their mission, rescuing survivors, because of poor interphone discipline.

AFTER DEADLINES

HEADS UP AIRMANSHIP AND A BIT 'O GOOD FORTUNE combined to overcome some serious and potentially volatile airborne malfunctions and narrowly averted a C-130 disaster recently. Right after breaking ground, the Herk lost power on three of its engines and veered to the right. The flight engineer, seeing the right wing overheat light come on along with the number four generator fail light, closed the bleed valves to try and curtail the flow of high pressure, 600 degree air that was escaping and overheating the wing, and advised the pilot to get the bird back on the ground ASAP—which he did. When maintenance troops pulled the right wing leading edge section, they found a ruptured bleed air duct, scorched wiring bundles and a buckled bulkhead in front of a fuel tank which was seeping JP-4. To make things even more interesting, the cargo that day was over 3,000 gallons of POL. Miraculously, there was no fire, even though all the ingredients were present to turn the turboprop into a 70-ton napalm bomb.

MAC'S NEW "STRETCH" STARLIFTER PROTOTYPE has been undergoing quite a series of shakedown tests designed to insure that it meets everybody's expectations. In one of the most recent, termed "Have Bounce" by Air Force officials, additional instrumentation was installed on the YC-141B so its capability for landing on bombed-out runways could be judged. The touchy touchdowns are scheduled to take place at Edwards AFB until sometime in July, after which the Stretch-B will be de-instrumented and turned over to MAC's active flying force.

"THE COMMAND POST SAID THERE WERE SOME PROBLEMS WITH THE AIRPLANE, but this is ridiculous." All seriousness aside, this C-141 "I-Tail" will never slip the surly bonds, because it is permanently attached to the ground for use as a loading simulator. Previously used in stress tests by Lockheed-Georgia during manufacture of the Starlifter, the mammoth structure is now a complete C-141 training facility for Dobbins Aerial Port Squadrons. Affectionately known as the "Incredible Hulk," it is the only one of its kind in existence in the Air Force.

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NOW THAT'S WHAT I CALL A REALISTIC RIDE IN THE BOX, LIEUTENANT !